

WHAT IS CLAIMED IS:

1. A method of operating a vehicle-mounted surveillance system including a camera and vehicle-mounted recording device that creates video recordings having a start time and a stop time, the method comprising the steps of:
capturing a stream of live video of an area of surveillance using the camera;
processing the live video stream to impose a delay of pre-set time interval on the live video stream to generate a time-delayed video stream; and
activating the recording device, upon an occurrence of an event at a reference time, to record the time-delayed video stream so that a video recording is created of the surveillance area and the start time of the video recording precedes the reference time by the pre-set time interval.
2. The method of claim 1 where the step of processing includes sequentially writing data representative of the live video stream into a FIFO buffer.
3. The method of claim 2 where the step of processing further includes holding the data in the FIFO buffer for the pre-set time interval.
4. The method of claim 2 where the step of processing further includes compressing the data that is written into the FIFO buffer.

5. The method of claim 3 where the time-delayed video stream is generated by reading the data out of the FIFO buffer upon expiration of the pre-set time interval.
6. The method of claim 1 where the live video stream is received as an analog-formatted stream and converted into a digitized stream.
7. The method of claim 6 where the analog-formatted stream is an NTSC-defined video stream.
8. The method of claim 1 where the live video stream is received as a digitally-formatted stream.
9. The method of claim 1 where the live video stream includes an image component and an audio component.
10. A video data storage and delay device arranged to provide a delay of a pre-set time interval to a real time video stream received from a vehicle-mounted video system, the vehicle-mounted video system including a video camera and recording device, comprising:
 - an input interface for receiving the real time video stream from the video camera;
 - a processor to process data representative of the received real time video stream and for writing the data to storage and reading the data from storage so

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as to create the time delay between the input and output of the video data storage and delay device;

a memory coupled to the processor to temporarily store the processed data for the pre-set time interval; and

an output interface for transmitting the delayed video signal to the recording device.

11. The video data storage and delay device of claim 10 further including a data encoder interposed between the input interface and the processor.

12. The video data storage and delay device of claim 11 wherein the data encoder compresses data in accordance with CCIR-601.

13. The video data storage and delay device of claim 10 wherein the field size associated with the data encoder is 720 pixels by 243 pixels.

14. The video data storage and delay device of claim 10 further including an analog-to-digital converter interposed between the input interface and the data encoder.

15. The video data storage and delay device of claim 10 further including a data decoder interposed between the processor and output interface.

16. The video data storage and delay device of claim 15 further including a digital-to-analog converter interposed between the the data decoder and the output interface.

17. The video data storage and delay device of claim 10 wherein the input interface and output interface include standard connections.

18. The video data storage and delay device of claim 17 wherein the connections comprise RCA-type co-axial connectors.

19. The video data storage and delay device of claim 10 wherein the processor is user-controllable to adjust processing parameters.

20. The video data storage and delay device of claim 19 wherein the processing parameters include the length of the pre-set time interval.

21. The video data storage and delay device of claim 19 further including a user interface for controlling adjustable processing parameters.

22. The video data storage and delay device of claim 21 wherein the user interface includes an interactive menu displayed on a user-viewable display.

23. The video data storage and delay device of claim 22 further including user-activated controls.

24. The video data storage and delay device of claim 10 wherein the real time video stream includes video and audio components.

25. The video data storage and delay device of claim 24 wherein the processor processes the video and audio components in separate parallel processes.

26. The video data storage and delay device of claim 24 wherein the audio component includes a first and a second audio track.

27. The video data storage and delay device of claim 26 wherein the first audio track corresponds to audio captured from a user-worn wireless microphone.

28. The video data storage and delay device of claim 10 wherein the second audio track corresponds to audio captured from a vehicle-mounted microphone.

29. The video data storage and delay device of claim 10 further including a self-contained enclosure requiring only external power and signal connections and that is adapted for retrofitting to existing in-car video installations.

30. The video data storage and delay device of claim 29 further including a signal pass-through path.

31. The video data storage and delay device of claim 10 wherein the memory is arranged from static random access memory.

32. The video data storage and delay device of claim 11 further including a first transient data buffer for temporarily storing data creating during operation of the data encoder.

33. The video data storage and delay device of claim 32 wherein the first transient data buffer is arranged from dynamic random access memory.

34. The video data storage and delay device of claim 15 further including a second transient data buffer for temporarily storing data creating during operation of the data decoder.

35. The video data storage and delay device of claim 34 wherein the second transient data buffer is arranged from dynamic random access memory.

36. The video storage and delay device of claim 10 wherein the recording device is a VCR.

37. The video storage and delay device of claim 10 wherein the recording device is a digital video recorder.

38. A method of operating a vehicle-mounted recording device, the method comprising the steps of:

capturing a stream of real time video of an area of surveillance using a video camera;

buffering the stream of real time video in a time-sequential manner for a pre-set time interval to create a buffered stream of video that is time delayed compared with the real time video stream; and

outputting the buffered and time delayed video stream to a vehicle-mounted recording device that is adapted to selectively record the buffered and time delayed video stream.

39. A method of operating a vehicle-mounted surveillance system including a camera and vehicle-mounted recording device, the method comprising the steps of:

capturing a continuous stream of real time video of an area of surveillance using the camera;

imposing a delay of pre-set time interval on the real time video stream to create a time delayed video stream; and

recording the time delayed video stream onto a storage medium using the recording device.

40. A video recorder adapted for use in a vehicle-mounted surveillance system, comprising

an input interface for receiving a real time video stream from a video source;

a processor to process data representative of the received real time video stream and for writing the data to storage and reading the data from storage so as to create a time delayed version of the real time video stream;

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a memory coupled to the processor to temporarily store the processed data for the set time interval; and

a recording device for recording video and audio onto a storage medium, the recording device being coupled to the processor for receiving the time delayed version of the real time video stream.